City of Seattle Amendments to National Fire Protection Association (NFPA) 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition.

Point of Information

To purchase a copy of the NFPA 130, 2003 edition, go to www.nfpa.org or contact your nearest technical book retailer. Be sure to obtain the 2003 edition of NFPA 130 as newer editions may exist.

City of Seattle Ordinance 121524 adopts the 2003 Seattle Fire Code and by reference adopts the National Fire Protection Association (NFPA) 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition.

Sections of NFPA 130 that were amended or repealed are indicated in the excerpts shown below from below from City of Seattle Ordinance 121524. Text that is deleted from the NFPA 130 is shown with strikethrough and enclosed in double parenthesis. Text that was added as a Seattle amendment is shown as underlined. Where an entire section was deleted, it is noted as being repealed. Three asterisks indicate that the subsection continues unchanged from the NFPA language.

Subsection 4.2.1 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:

4.2.1 The goal of this standard is to provide an environment for occupants of fixed guideway and passenger rail system elements that is safe from fire and similar to a practical extent based on the following measures:

(1) Protection of occupants not intimate with the initial fire development

(2) Maximize the survivability of occupants intimate with the initial fire development

(3) To provide safety to fire fighters and emergency responders during emergency operations.

A new subsection 5.1.2.1.1 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is adopted to read as follows:

5.1.2.1.1 Fixed guideway transit and passenger rail stations shall be classified as Group A, Division 3 occupancies in accordance with the 2003 Seattle Building Code and 2003 Seattle Fire Code.

Subsection 5.2.2 of NFPA130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:

5.2.2 Safeguards During Construction. During the course of construction or major modification of any structure, provisions of ((~~NFPA 241,*Standard for Safeguarding*~~

~~*Construction, Alteration, and Demolition Operations*~~)) Chapter 14 of the 2003 Seattle Fire Code and Chapter 33 of the Seattle Building Code shall apply.

A new subsection 5.3.1 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is adopted to read as follows:

5.3.1 Smoke control system. A smoke control system shall be provided in underground fixed guideway transit and passenger rail stations in accordance with Section 909 of the 2003 Seattle Building Code. Smoke control shall restrict movement of smoke to the general area of fire origin and non occupied exhaust areas and maintain means of egress in a usable condition.

Subsection 5.4.9 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:

5.4.9((~~Power Supply for Emergency Ventilation Fans.~~ ~~See Chapter 7.~~))Emergency Power.

5.4.9.1 Underground fixed guideway transit and passenger rail stations shall be provided with an emergency power system complying with Section 2702 of the 2003 Seattle Building Code for emergency power loads specified in 5.4.9.2.

5.4.9.2 The following loads are classified as emergency power loads:

1. Emergency voice/alarm communications systems.
2. Fire alarm systems.
3. Automatic fire detection systems.
4. Elevator car lighting.
5. Means of egress and exit sign illumination as required by Chapter 10 of the 2003 Seattle Building Code.
6. Smoke control systems.
7. Ventilation and automatic fire detection equipment for smokeproof enclosures.
8. Fire pumps.
9. Emergency power shall be provided for a selected elevator in each bank in accordance with Section 3016.7. A bank of elevators is a group of elevators or a single elevator controlled by a common operating system—all elevators that respond to a single call button constitute a bank of elevators. All elevators shall be transferable to emergency power.

   Note: There is no limit on the number of cars that may be in a bank, but there may not be more than four cars within a common hoistway. See Section 3016.8 of the 2003 Seattle Building Code.

10. Emergency Ventilation Fans as required by Chapter 7.
11. Escalators where included in emergency egress capacity calculations
12. Lighting in Fire Command Center and associated mechanical equipment rooms.

Subsection 5.5.1 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:

5.5.1 General. The provisions for means of egress for a station shall comply with ((~~Chapter 7 and Chapter 12 of NFPA 101~~)) Chapter 10 of the 2003 Seattle Building Code, except as herein modified.

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Subsection 5.5.2.2 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
5.5.2.2 The occupant load shall be based on whichever is greater:

(1) T((~~t~~))he calculated train load of trains simultaneously entering the station on all tracks in normal traffic direction during the peak 15 -minute period plus the simultaneous entraining load awaiting a train or;

(2) The number of occupants computed at the rate of one occupant per unit of area as prescribed in Table 1004.1.2 of the 2003 Seattle Building Code.

Subsection 5.5.2.4 of NFPA130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
5.5.2.4 The required egress capacity in stations shall be based on evacuation of the occupant load calculated in accordance with 5.5.2.7 and 5.5.2.8 or the number of occupants computed at the rate of one occupant per unit of area as prescribed in Table 1004.1.2 of the 2003 Seattle Building Code, whichever is greater.

Subsection 5.5.3.1 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
5.5.3.1 Platform Evacuation Time. There shall be sufficient egress capacity to evacuate the platform occupant load as defined in 5.5.2.8 from the station platform in 4 minutes or less, but in no case shall the required egress width be less than prescribed by Section 1005 of the 2003 Seattle Building Code.

Subsection 5.5.3.3.1 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
5.5.3.3.1 Platforms, Corridors, and Ramps of 4 Percent Slope or Less.

5.5.3.3.1.1 Exit corridors and ramps shall be a minimum of 1.73 m (5 ft 8 in.) wide.

5.5.3.3.1.2 In computing the capacity available, 304.8 mm (1 ft) shall be deducted at each side wall and 457.2 mm (1 ft 6 in.) at platform edges.
(a) Capacity shall be ((~~2.27 pim~~)). 2.08 pim
(b) Travel speed shall 61 m/min (200 fpm).

Subsection 5.5.3.3.2.4 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
5.5.3.3.2.4 Capacities and travel speeds for stairs, stopped escalators, and ramps of over 4 percent slope shall be as follows:
(1) Up direction
(a) Capacity — ((~~0.0626 p/mm-min (1.59 pim)~~))1.31 pim (0.05 p/mm-min)
(b) Travel speed—((~~15.24 m/min (50 fpm) (indicates vertical component of travel speed)~~)) 40 fpm (15.24 m/min)

(2) Down direction
(a) Capacity — ((~~0.0716 p/mm-min (1.82 pim)~~)) 1.41 pim (0.06 p/mm-min)

(b) Travel speed — ((~~18.3 m/min (60 fpm) (indicates vertical component of travel speed)~~)) 48 fpm (14.6 m/min)

A new subsection 5.5.3.3.2.8 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is adopted to read as follows:
5.5.3.3.2.8 Escalators in underground fixed guideway transit and passenger rail stations shall have a clear width of 32 inches (815 mm) minimum in accordance with the 2003 Seattle Building Code.

Exception: The clear width is not required in existing facilities undergoing alterations.

A new subsection 5.5.3.5.3 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is adopted to read as follows:
5.5.3.5.3 Access to three or more exits shall be provided from a floor area where required by Section 1018.1 of the 2003 Seattle Building Code.

A new subsection 5.5.3.5.4 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is adopted to read as follows:
5.5.3.5.4 Every required stairway serving floor levels more than 30 feet (9144 mm) below its level of exit discharge except those regularly used by passengers shall comply with the requirements for a smokeproof enclosure as provided in Section 1019.1.8 of the 2003 Seattle Building Code.

Subsection 5.5.3.6 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
5.5.3.6 A common path of travel from the platform ends to a point where a person has a choice of two paths of egress travel to two exits shall not exceed 22.8m (75 ft) or one car length, whichever is greater.

Subsection 5.6.1 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
5.6.1 Stations shall be provided with a system of emergency lighting in accordance with ((~~NFPA *10*,~~)) Section 1006 of the 2003 Seattle Building Code, except as otherwise noted herein.

Subsection 5.7.3.1 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
5.7.3.1 An automatic sprinkler protection system shall be provided in all areas of enclosed fixed guideway transit and passenger rail stations ((~~used for concessions, in storage areas, in trash rooms, and in the steel truss area of all escalators and other similar areas with combustible loadings~~)), except trainways((~~.~~)), in accordance with the following:

1. The fire area exceeds 5,000 square feet (1115 m 2); or
2. The fire area has an occupant load of 100 or more.

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A new subsection 5.7.3.1.2 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is adopted to read as follows:

5.7.3.1.2 The highest level of exit discharge serving the underground portions of fixed guideway transit and passenger rail stations more than 30 feet (9144 mm) below the lowest level of exit discharge and all levels below shall be equipped with an automatic sprinkler system installed in accordance with Section 903.3.1.1 of the 2003 Seattle Fire Code.

Subsection 5.7.4.1 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
5.7.4.1 Each underground transit station shall be equipped throughout with a Class I automatic wet or manual wet standpipe system.((~~with a standpipe system of either Class I or Class III type, as defined in NFPA 14.~~))

5.7.4.1.1 ((~~Class of service shall be determined by the authority having jurisdiction. (SeeA.5.7.4.30)~~)) Each elevated transit station shall be equipped throughout with a Class I standpipe system where the highest platform or floor level is more than 20 feet above the lowest level of fire department access.

Subsections 5.7.4.2 and 5.7.4.3 respectively of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, are amended as follows:
5.7.4.2 ((~~The authority having jurisdiction shall be consulted as to location, spacing, and number of standpipe hose outlets and valves and shall determine the need for provision and type of hose~~)). Class I standpipe hose connections shall be provided in accordance with Section 905.4 of the 2003 Seattle Fire Code.

5.7.4.3* Fire department connections for fire department use in supplying the standpipe system shall be located ((~~as follows:~~)) in accordance with Seattle Fire Department Administrative Rule 9.03.04 *Automatic Sprinkler and Standpipe Systems.*
((~~1. within 30.5 m (100 ft)of vehicular access and~~
~~2. within operating distance of fire hydrants as determined by the local authority having jurisdiction~~)).

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Subsection 5.7.6 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
5.7.6* Fire Command Center. Underground transit stations shall be provided with a fire command center in accordance with NFPA 72 and Section 509 of the 2003 Seattle Fire Code.

Subsections 6.2.4.5, 6.2.4.5.1, 6.2.4.5.2, and 6.2.4.5.3 respectively of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, are hereby repealed.

Subsection 6.2.7.2.4 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
6.2.7.2.4 Standpipe lines shall be ((~~a minimum~~)) sized in accordance with the following: ((~~of 101.6 mm (4 in) or sized by hydraulic calculations.~~))
(1) Standpipe lines shall be a minimum size of 152.4mm (6 in.).

(2) Standpipe lines exceeding 2,500 ft. in length between fire department connections shall be a minimum size of 203.2 mm (8 in.).
(3) Standpipe lines exceeding 15,000 ft. in length between fire department connections shall be a minimum size of 254.0 mm (10 in.).

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A new subsection 6.2.7.2.4.2 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is adopted to read as follows:
6.2.7.2.4.2 Four-way 2½ in. fire department connections shall be provided at all emergency access points.

A new subsection 6.2.7.2.4.3 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is adopted to read as follows:
6.2.7.2.4.3 Standpipes shall be interconnected at all tunnel cross passageways and within the stations, with isolation valves provided for each interconnection.

Subsection 6.4.6 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:
6.4.6 Egress for Passengers

6.4.6.1 The system shall incorporate a walk surface or other approved means for passengers to evacuate a train at any point along the trainway so that they can proceed to the nearest station or other point of safety.

6.4.6.2 System egress ((~~points~~)) walk surfaces shall be illuminated at a level of not less than 2.69 lx (0.25 ft-candles).

A new subsection 6.4.7 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is adopted to read as follows:
6.4.7 Standpipe and Hose Systems. When the length of a fixed guideway transit or passenger rail system elevated trainway exceeds 122m (400 feet) a Class I fire standpipe system shall be provided in accordance with NFPA 14, *Standard for the Installation of Standpipe Hose Systems.*

6.4.7.1 Standpipes shall be permitted to be of the dry types with the approval of the authority having jurisdiction.

6.4.7.2 Standpipe systems shall be connected to an approved water supply capable of supplying the system demand for a minimum of 1 hour.

6.4.7.3 Acceptable water supplies shall include the following:
(a) Municipal or privately owned waterworks systems that have adequate pressure and flow rate and a level of integrity acceptable to the authority having jurisdiction.
(b) Automatic or manually controlled fire pumps that are connected to an approved water source.
(c) Pressure-type or gravity-type storage tanks that are installed in accordance with NFPA 22, *Standard for Water Tanks for Private Fire Protection.*

Subsection 8.2.3 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is hereby repealed.

Subsection 8.11 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is hereby repealed.

Subsection 9.21 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is amended as follows:

9.2.1 Water Supply. An adequate, reliable water supply shall be available for fire protection, including a sufficient number of properly located hydrants, in accordance with ((~~NFPA 24,*Standard for the Installation of Private Fire Service Mains and Their Appurtenances.*~~)) Section 508 of the 2003 Seattle Fire Code.

A new subsection 10.12.6 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is adopted to read as follows:

10.12.6 Emergency shutoff of traction power shall be achieved by activation of remote manual-control devices, which, in turn, cause the operation of substation circuit breakers and associated trackway disconnect devices.

A new subsection 10.12.7 of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is adopted to read as follows:

10.12.7 Traction power disconnect devices shall allow immediate removal of power from power zones.

Subsection A.6.2.4.5.3 of Annex A of NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems, 2003 edition, is hereby repealed.

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